

REMARKS

These amendment and remarks are filed in response to the Office Action mailed November 23, 2007. For the following reasons, this application should be allowed and the application passed to issue. No new matter is introduced by this amendment. The amendment to claim 1 is supported by claims 9 and 27, now canceled, and the specification at page 8, line 24 to page 9, line 2. Support for the amendment to claim 26 is found in the specification at page 8, line 24 to page 9, line 2.

Claims 1-4, 6-8, 10, 12, and 14-26 are pending in this application. Claims 8, 10, 17-22, 24, and 25 were withdrawn pursuant to a restriction requirement. Claims 1-4, 6, 7, 9, 12, 14-16, 23, and 26-29 have been rejected. Claims 1 and 26 have been amended in this response. Claims 9 and 27-29 have been canceled in this response. Claims 5, 11, and 13 were previously canceled.

Claim Rejections Under 35 U.S.C. § 112

Claims 1, 26, and 27 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claims 1 and 26 to correct the asserted informalities and claim 27 has been canceled. Applicants submit that the present claims fully comport with the requirements of 35 U.S.C. § 112.

Claim Rejections Under 35 U.S.C. § 102

Claim 26 was rejected under 35 U.S.C. § 102(b) as being anticipated by Ito et al. (JP 11-145518). This rejection is traversed, and reconsideration and withdrawal thereof respectfully

requested. The following is a comparison between the present invention, as claimed, and the cited prior art.

An aspect of the invention, per claim 26, is a nitride-based semiconductor light-emitting device comprising a first conductivity type first nitride-based semiconductor layer formed on a substrate. An active layer is formed on the first nitride-based semiconductor layer. A second conductivity type second nitride-based semiconductor layer having a single layer structure with a thickness of at least 0.1 μm is formed on the active layer. An undoped contact layer is formed directly on the second nitride-based semiconductor layer. An electrode is formed directly on the undoped contact layer. The undoped contact layer consists of a nitride-based semiconductor and has a thickness of at least about 1 nm and not more than about 10 nm.

Ito et al. do not anticipate the claimed nitride-based semiconductor light-emitting device because Ito et al. do not disclose an undoped contact layer consisting of a nitride-based semiconductor, as required by claim 26.

The Examiner asserted that an undoped contact layer 6 is disclosed in Fig. 1 of Ito et al. The undoped contact layer of Ito et al., however, is a p electrode consisting of a first metal layer (Co) 61 and a second metal layer (Au) 62. Thus the undoped contact layer 6 of Ito et al. is a metal, not a nitride-based semiconductor, as required by claim 26.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321

(Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). Because Ito et al. do not disclose an undoped contact layer consisting of a nitride-based semiconductor, as required by claim 26, Ito et al. do not anticipate claim 26.

Applicants further submit that Ito et al. do not suggest the claimed nitride-based semiconductor light-emitting device.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 2, 4, 27, and 28 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Ito et al. in view of Kamimura et al. (JP 9-232680).¹ This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is comparison between the invention, as claimed, and the cited prior art.

An aspect of the invention, per claim 1, is a nitride-based semiconductor light-emitting device comprising a first conductivity type first nitride-based semiconductor layer formed on a substrate. An active layer is formed on the first nitride-based semiconductor layer. A first undoped optical guide layer is formed on the active layer. A second conductivity type second nitride-based semiconductor layer having a single layer structure with a thickness of at least 0.1 μm is formed on the first undoped optical guide layer. An undoped contact layer is formed directly on the second nitride-based semiconductor layer. An electrode is formed directly on the undoped contact layer. The undoped contact layer consists of a nitride-based semiconductor and has a single-layer structure and a thickness of at least about 1 nm and not more than about 10 nm, and the undoped contact layer does not include Al.

Initially it is noted that claims 27 and 28 have been canceled.

¹ Claims 1, 2, and 4; and 27 and 28 were rejected in two separate rejections in the Office Action.

As regards independent claim 1, the combination of Ito et al. and Kamimura et al. do not suggest that the undoped contact layer consists of a nitride-based semiconductor and has a single-layer structure. As explained above, the undoped contact layer of Ito et al. is a p electrode consisting of a first metal layer and a second metal layer. Thus the undoped contact layer 6 of Ito et al. is not a nitride-based semiconductor and does not have a single-layer structure, as required by claim 1. Kamimura et al. do not cure the deficiencies of Ito et al., as Kamimura et al. do not suggest a nitride-based semiconductor device comprising an undoped contact layer consisting of a nitride-based semiconductor and having a single-layer structure, as required by claim 1.

Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). There is no suggestion in Ito et al. and Kamimura et al. to modify the device of Ito et al. to include an undoped contact layer consisting of a nitride-based semiconductor and having a single-layer structure, as required by claim 1, nor does common sense dictate the Examiner-asserted modification. The Examiner has not established that there would be any obvious benefit in making the asserted modification of Ito et al. *See KSR Int'l Co. v. Teleflex, Inc.*, 500 U.S. ____ (No. 04-1350, April 30, 2007) at 20.

The only teaching of the claimed light emitting device is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable

expectation of success must not be based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Upon allowance of a claim directed to the elected species, Applicants respectfully request rejoinder, examination, and allowance of claims directed to the withdrawn species in accordance with 37 C.F.R. § 1.141.

Allowable Subject Matter

The detailed Office Action does not contain any prior art rejections of claims 3, 6-10, 12, 14, 16, 23, and 29. Therefore, it is presumed that these claims would be allowable upon the withdrawal of the rejections under 35 U.S.C. § 112.

The dependent claims are allowable for at least the same reasons as respective independent claims from which they depend and further distinguish the claimed nitride-based semiconductor light-emitting device.

In view of the above remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

Application No.: 10/663,714

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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